



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Am

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,954	01/14/2002	Hougong Wang	AMAT/5908/CPI/AL/ WIRE/PJ	4418
32588	7590	05/26/2005	EXAMINER	
APPLIED MATERIALS, INC. 2881 SCOTT BLVD. M/S 2061 SANTA CLARA, CA 95050			BAHTA, KIDEST	
			ART UNIT	PAPER NUMBER
			2125	
DATE MAILED: 05/26/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,954

Applicant(s)

WANG ET AL.

Examiner

Kidest Bahta

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 65-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 65-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 65-67, 69, 71-74, 76-77, 79-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tepman et al. (U.S. Patent 5,186,718) in view of White et al. (U.S. Pub. 2003/0190220).

Regarding claims 65, 74, 77, and 81-84, Tepman discloses that a method of processing a wafer in a semiconductor wafer processing system (20), comprising: a buffer chamber (40) enclosing a first robot (24); one or more processing chambers (44 and 46; column 5, lines 52-53) attached to the buffer chamber (40); a transfer chamber (42) enclosing a second robot (28); one or more processing chambers (34) attached to the transfer chamber (42), wherein at least one vapor deposition chamber (column 4, lines 2-9); is attached to the transfer chamber (Fig. 1; i.e., one of the processing chamber is vapor deposition chamber); and two or more transition chambers (26 and 27; i.e., intermediate processing or treatment chamber) which separate the transfer chamber and the buffer chamber (Fig. 1), the transition chambers each comprising a heating element disposed therein (column 4, lines 23-29); transferring the wafer into one of the transition chambers and partially preheating the wafer in the transition

Art Unit: 2125

chamber (column 4; lines 37-55); transferring the wafer into one of the processing chambers attached to the transfer chamber (column 4, lines 43-46); Performing a vapor deposition on the wafer in the processing chamber (column 4, lines 5-9), after partially preheating the wafer in the transition chamber (26), the wafer is transferred from transition chamber by the second robot (28) into the processing chamber (34); after the vapor deposition is performed on the wafer (column 4, lines 2-10), the wafer is transferred from the processing chamber by the second robot (column 4, lines 43-46); cooling the wafer in one of the transition chambers (27) after performing a vapor deposition on the wafer (column 4, lines 10-29).

White discloses introducing a wafer into a first load lock of a semiconductor wafer processing system ([0035]), a first load lock (50) comprising a heating element ([0035]) partially preheating the wafer in the first and second load lock ([0042], 50 and 52), the wafer is transferred by the first robot (70 & 72, transfer shuttle) into the transition chamber ([0047]).

It would have been obvious to a person of ordinary skill in the art at the time of invention was made to modify the teaching of Tepman with the teachings of White in order to decrease contamination and increase throughput by pre-cleaning and otherwise pre-treating wafers within the system prior to their entering high vacuum regions.

Regarding claims 66-67, 69 and 71, Tepman discloses the transition chamber heating element comprises a wafer holder (30 and 32), a cooling plat (27).

Art Unit: 2125

Regarding claims 72 and 79 Tepman discloses that the transition chambers are isolated from the transfer chamber and the buffer chamber (Fig. 1).

Regarding claims 73 and 80 Tepman discloses that the transition chambers are pass-through chambers (36).

3. Claims 68, 70 and 75 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tepman et al. (U.S. Patent 5,186,718) in view of White et al. (U.S. Pub. No. 2003/0190220) as applied to claims 65 and 74 above, and further in view of Beaulieu et al. (U.S. Patent 6,719,517).

Regarding claims 68, 70, 75 and 78, Tepman and White disclose that limitations of claims 65 and 74, as stated in par. 2, However; Tepman and White fail to disclose the limitation of claim 68, 70, 75 and 78, the transition chamber heating elements comprises a lamp and a resistive heater. Beaulieu discloses that the transition chamber heating elements comprises the lamp and resistive heater (column 11, lines 9-47).

It would have been obvious to a person of ordinary skill in the art at the time of invention was made to modify the teaching of Tepman and White with the teachings of Beaulieu in order to provide a substantially uniform temperature distribution on the plate.

Conclusion

Art Unit: 2125

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

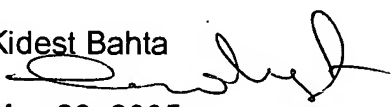
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kideest Bahta whose telephone number is 571-272-3737.

The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kideest Bahta


May 20, 2005